

E-Move after three years

The cumulative impact and learnings of an e-cycle loan pilot in Wales

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What was E-Move?

E-Move was an electric cycle and electric cargo cycle loan scheme operating in Aberystwyth, Rhyl, Barry, Swansea, Newtown and their surrounding areas. The three-year scheme was split into two strands:

- A. Loaning electric cycles to individuals in the community in all five focus towns and cities.
- B. Loaning e-cargo cycles to organisations of various sizes and operating models, primarily in Aberystwyth and Swansea.

The principal aim of the scheme was to give individuals and organisations, who would otherwise not have the opportunity, the experience of using an e-cycle or e-cargo cycle. The main barrier typically associated with uptake of e-cycles is the initial cost of purchase.

Explicitly, the scheme's objectives were:

1. To [...] manage and expand low-cost, community-based e-cycle hire and loan pilot schemes in five focus towns with high levels of deprivation in Wales (Swansea, Barry, Aberystwyth, Newtown and Rhyl), to promote and gather evidence from participants on e-cycle usage.
2. To [...] manage and expand e-cargo cycle 'library' pilot schemes in two urban locations for two years in Wales (Swansea and Aberystwyth), inviting local businesses and individuals to engage in trialling different e-cargo cycle models to promote and gather evidence on e-cargo cycle usage.
3. To increase the reach and inclusivity of the project via undertaking both a gender budgeting approach and a stakeholder mapping and engagement exercise, with a view to ensuring that beneficiaries are fully representative of the populations in which the project operates.
4. To ensure legacy arrangements are in place to facilitate transfer of ownership of the bike fleet to interested

community parties from April 2024, via an asset transfer agreement that stipulates a gender budgeting informed process for their future usage.

The scheme took a gender budgeting approach, meaning it sought both to effectively reach demographic groups traditionally under-represented in cycling, and to understand the differing experiences of the scheme among various groups, so that future schemes can maximise positive outcomes across diverse individuals.

This involved working intensively in the five focus towns to build relationships and encourage participation from people facing barriers to e-cycle usage. To do so, scheme officers:

- forged links with community stakeholders and specialist local organisations, to help reach diverse audiences and promote the scheme
- ran e-cycle demonstrations, led rides and buddy rides with some beneficiaries to increase confidence
- purchased various e-cycles and cycle accessories (such as child seats and folding e-cycles) to ensure that beneficiaries with different needs could make their everyday journeys
- offered ongoing support to loan beneficiaries who had questions or problems with their cycles.

The pilot scheme was a valuable opportunity to research barriers to the uptake of e-cycles and possible solutions to overcome these, as well as to evaluate the impact that e-cycles and e-cargo cycles can have on different individuals and organisations.

This report summarises the impact and learning from the E-Move scheme. It also presents recommendations for future practice, policy and investment with the aim to increase the uptake of e-cycles and e-cargo cycles across Wales.

Impact

A: Community e-cycle loans

In the three years of E-Move **708 e-cycle loans** were made to **652 beneficiaries** across the five locations.

Rhyl had the most people take part in the community loan scheme with **187 beneficiaries**. Across the remaining locations there were **126** in **Aberystwyth**, **109** in **Barry**, **124** in **Newtown** and **106** in **Swansea**.

A1. Community e-cycle loan reach¹

The split between **women** and **men** (n=524) was **48%** and **51%** respectively with **1%** selecting either '**Other**', '**Prefer to self-identify**' or '**Prefer not to say**'.

The distribution of beneficiaries responding to the surveys (n=518) across age brackets was **5%** between **16-24** years old, **16%** between **25-34** years old, **68%** between **35-64** years old and **10%** over **65** years old.

Of the respondents providing information about their health (n=509), **24%** said they had a **long-term physical or mental health condition or illness** lasting 12 months or more with **71%** saying they did not and **5%** saying they would '**Prefer not to answer**'.

¹ Data taken from surveys that beneficiaries receiving an e-cycle loan were required to complete before and after their loan. Surveys collected information on the numbers of trips beneficiaries made for different purposes, by travel mode, along with details on use of loaned cycles, and any accompanying changes in car usage. Beneficiaries were asked about any benefits the loans conferred, effects on their health or wellbeing, and likely future travel behaviours, as well as any barriers to the use of e-cycles. The surveys also collected demographic data about beneficiaries. Not all beneficiaries completed the part of the survey that collected demographic information. The number of beneficiaries that completed the survey and make up the dataset for each question is represented with 'n ='.

Of all responding beneficiaries (n=519) **6%** identified as **Asian or Asian British** and **3%** identified as **Black, Black British, Caribbean or African**. There were **2%** that identified as **Mixed or Multiple ethnic groups**. **85%** identified as **White** and **3%** identified as an **Other ethnic group**. Some **1%** said they would **'Prefer not to answer'**.

You can appreciate how the representation of these demographic groups compares to Welsh 2021 Census data in Figure 1 to Figure 4. The higher representation of beneficiaries from Asian, Black, and Other ethnic groups compared to Census data may be related to the scheme's targeted stakeholder engagement with specialist organisations and groups supporting refugees.

The employment status of responding beneficiaries (n=536) varied, with the majority saying they were either in **full-time** or **part-time** employment, **39%** and **20%** respectively. **11%** said they were **retired**, **10%** were **self-employed**, **9%** said they were **unemployed**, **7%** answered **'Other'**², **3%** said they were **studying** and **1%** answered **'Prefer not to say'**.

Across the whole scheme **72%** of beneficiaries for whom we had the relevant data (n=613) were from **urban areas** whilst the remaining **28%** came from **rural areas**.

² 'Other' self-reported answers included: 'working multiple jobs', 'volunteering', 'long term sick', 'unpaid care', 'house husband/wife', 'asylum seeker' and 'refugee'.

Figure 1 – gender representation of community beneficiaries compared to Office for National Statistics Wales 2021 Census data (n=524)

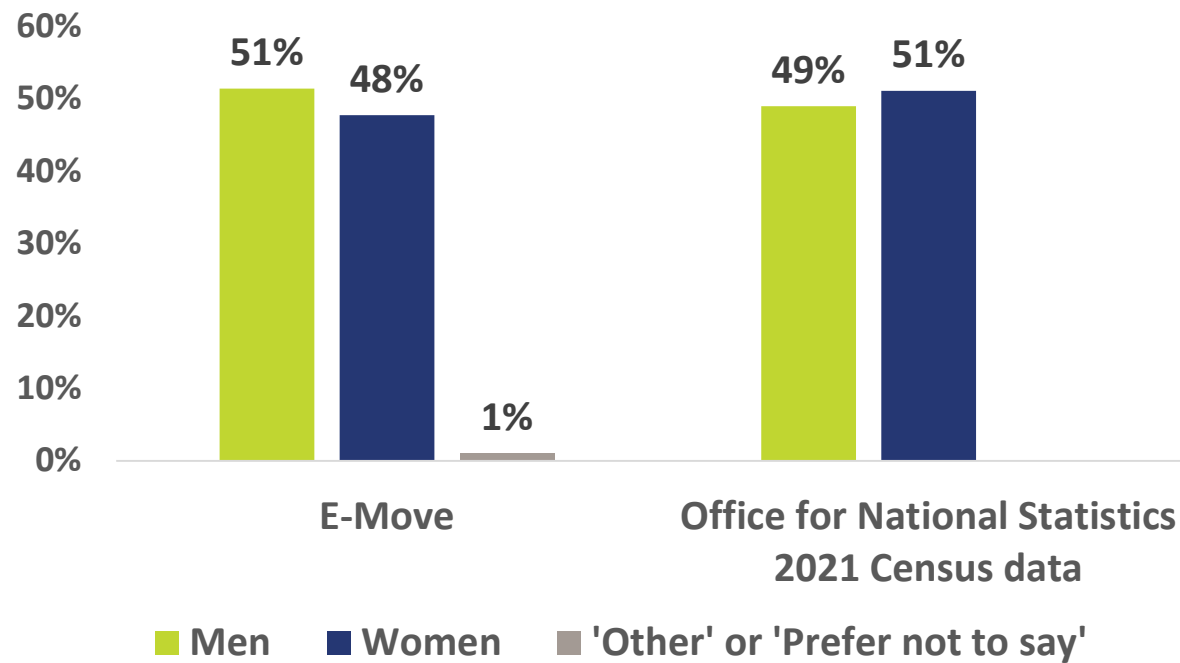


Figure 2 – representation of different age groups across the community beneficiaries compared to Office for National Statistics Wales 2021 Census data (n=518)

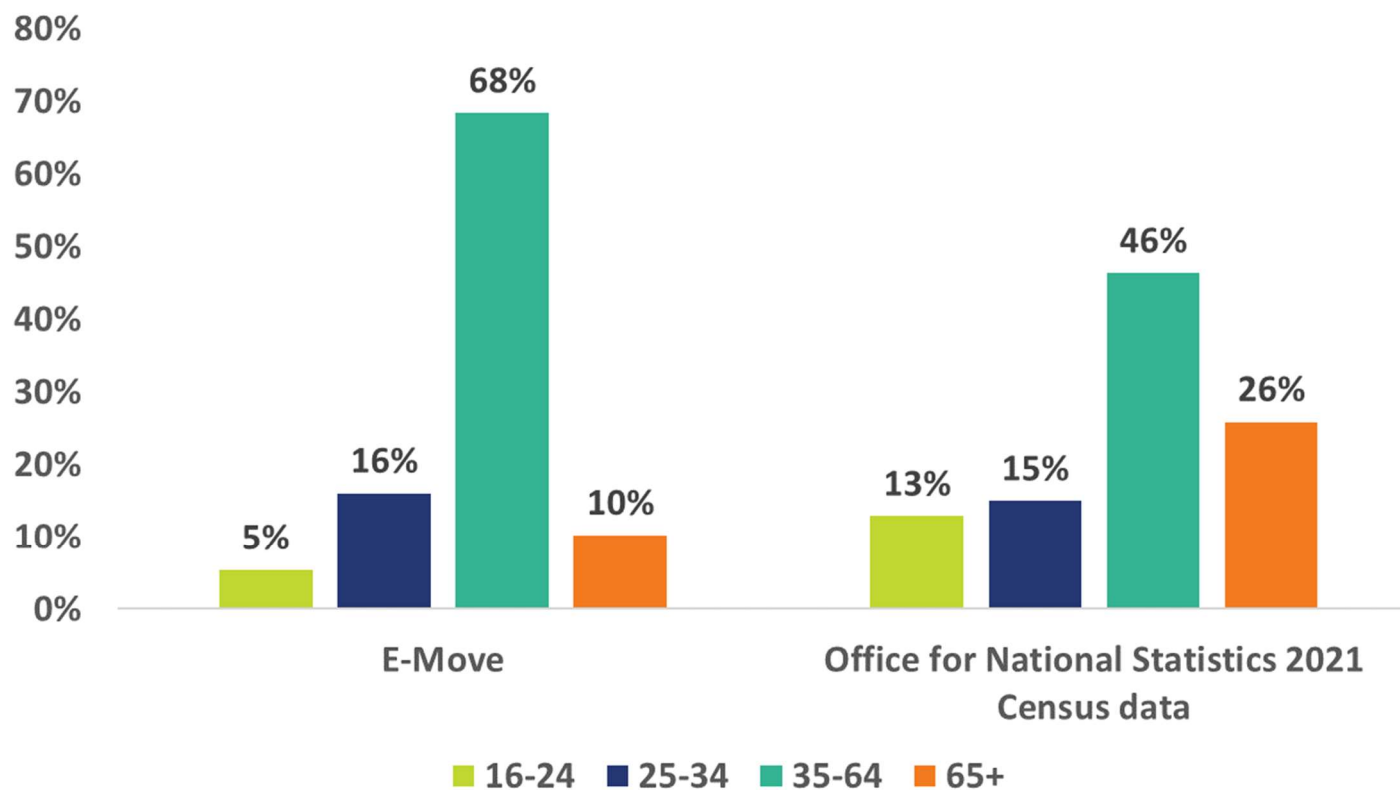


Figure 3 – representation of people with long-term physical or mental health illnesses or conditions across community beneficiaries compared to Office for National Statistics Wales 2021 Census data (n=509)

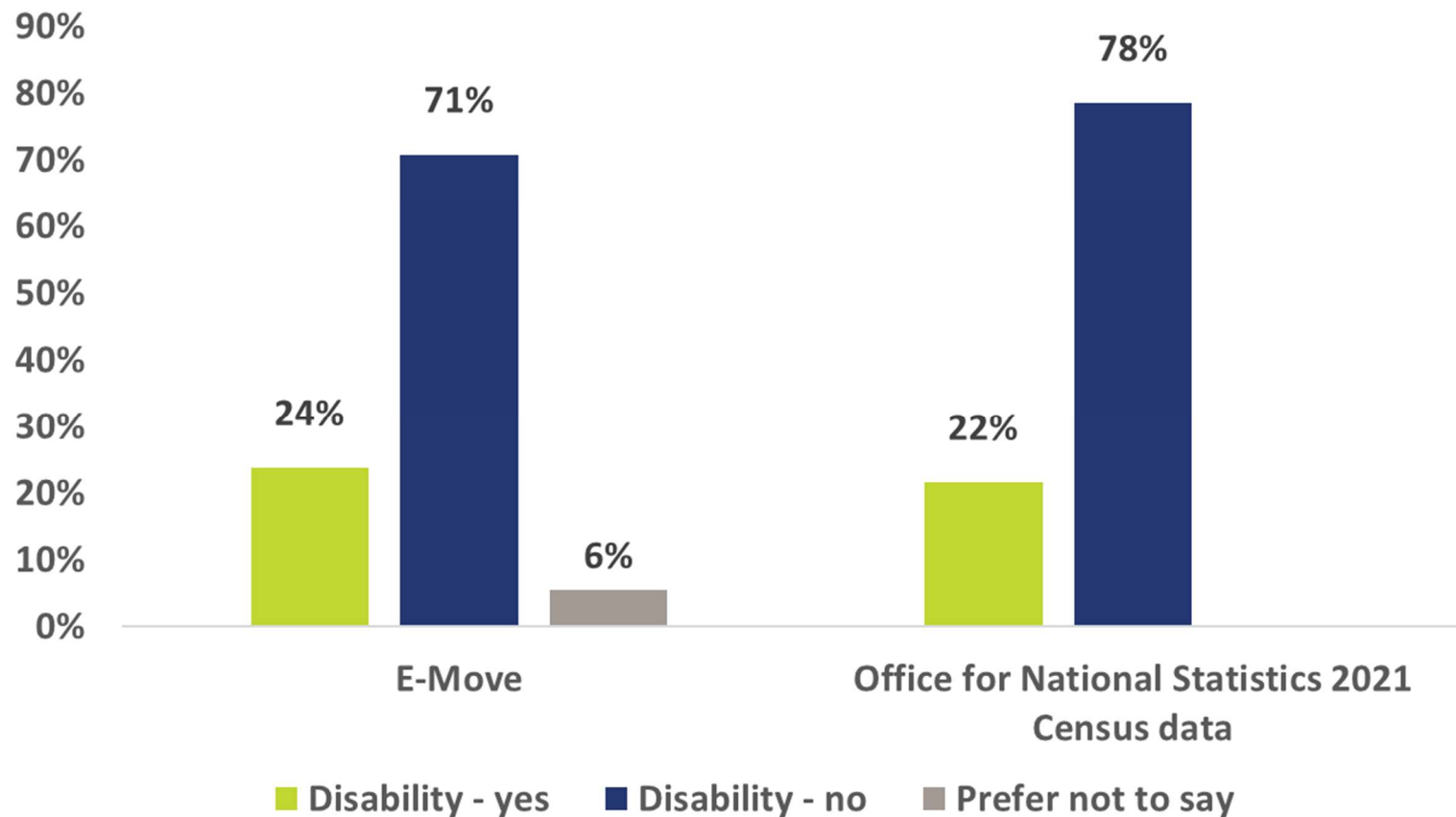
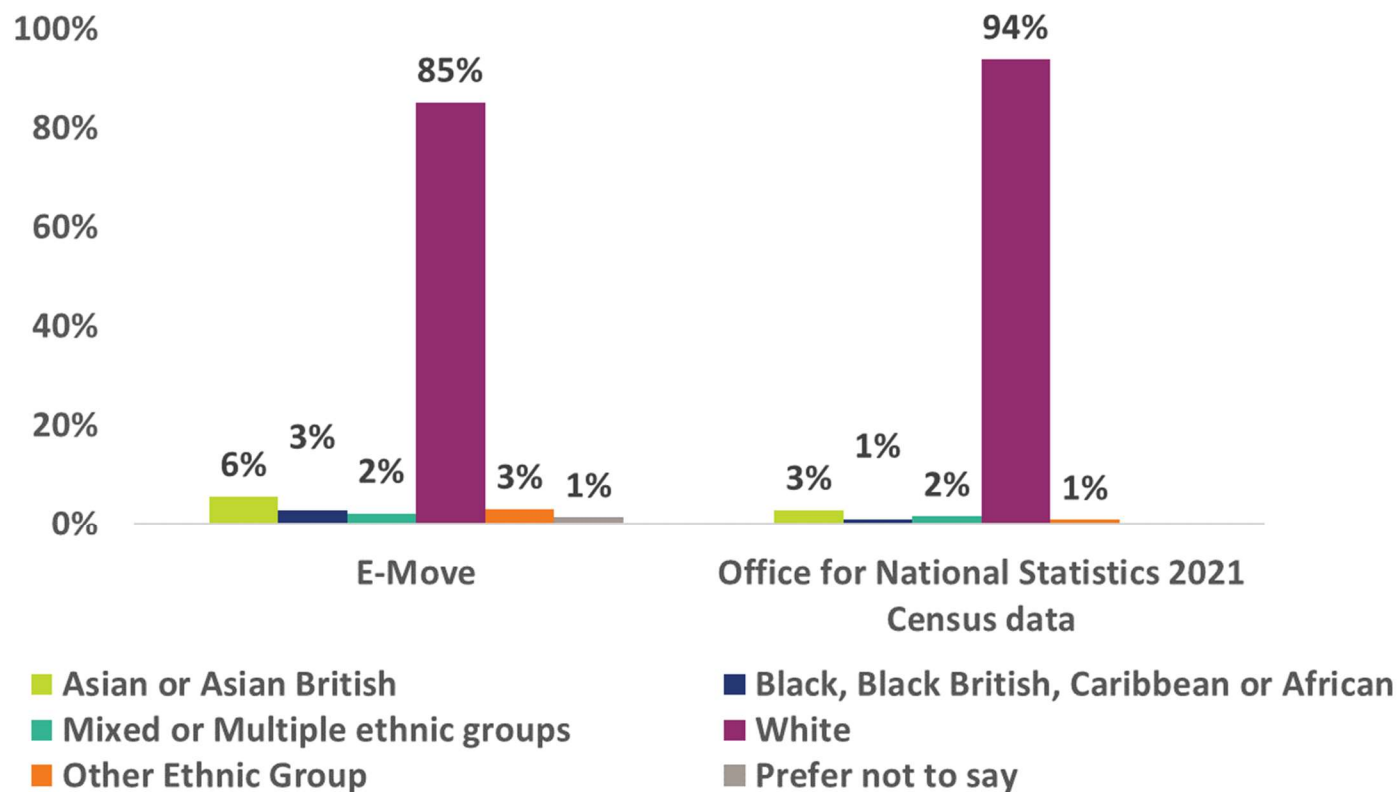


Figure 4 – distribution of minority ethnic groups across community beneficiaries compared to Office for National Statistics Wales 2021 Census data (n=519)



A2. Community e-cycle loan outcomes³

It was estimated that across the whole scheme there was **1,504 kg** of **carbon dioxide emissions saved**. This is due to loan beneficiaries replacing car driver or passenger journeys with e-cycle journeys. This would be equivalent to the amount of carbon dioxide generated by a **medium-sized car⁴ driving for 6,267 miles (10,027 kilometres)**. This was based off GPS trip data for 390 beneficiaries and pre-loan and post-loan survey data from 359 beneficiaries.

In a typical week, on average beneficiaries (n=359) reported making **65% fewer trips as car drivers** and **39% fewer trips as car passengers** when they had their e-cycle. There were **7% more trips made via an active travel mode**. Overall, there was a drop in the number of trips for all modes (car, walking and cycling) in favour of more e-cycle trips.

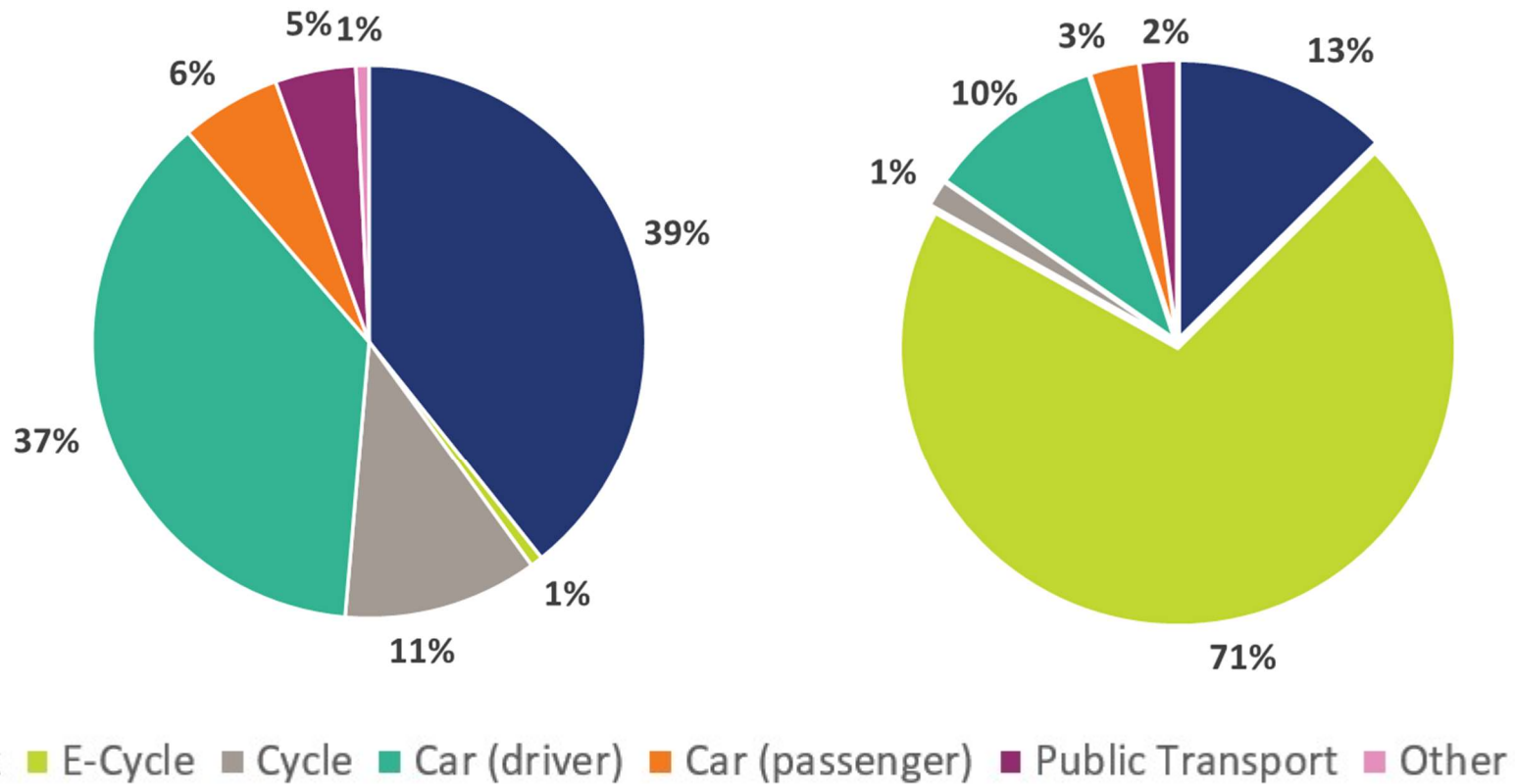
The possession of an e-cycle enabled trips that otherwise would not have been made. Beneficiaries (n=359) reported making **22% more trips during their loan** which they said would not have been possible without the e-cycle loan.

Figure 5 displays the mode share of beneficiaries before and during their loan.

³ Note on data sources: all cycles were fitted with a small GPS tracker that relayed information to a database via the mobile network. These trackers measured the number of trips made by each cycle, along with distances travelled (per trip), time spent travelling (in minutes per trip) and average speeds (per trip).

⁴ Assuming an efficiency of 150 grams of carbon dioxide per kilometre

Figure 5 – mode share of weekly trips made by beneficiaries before their e-cycle loan (left) and during their e-cycle loan (right) (n=359)



A3. Beneficiaries' experiences

Semi-structured interviews were conducted with beneficiaries towards the end of loans, or after the loan period had finished. These explored beneficiaries' experiences of the loans in more depth.

Benefits of an electric assist

Time saving: The speed of the e-cycles encouraged beneficiaries to use them for journeys they would not have made by non-electric cycle or on foot, because it would have taken too long.

Increased confidence: The extra power made travelling easier and more appealing. It gave beneficiaries a sense of confidence when setting out on a journey, that they would be able to get home without running out of strength. This was particularly the case for female beneficiaries.

Increased safety: Beneficiaries reported feeling safer in traffic than they would on a non-electric cycle, because they were able to travel at the speed of the traffic and were able to choose hillier routes to avoid traffic. Some women also said they felt safer on an e-cycle because they knew they had additional acceleration to get away should they feel threatened.

New journeys: People, particularly those with health conditions, reported that e-cycles enabled them to make completely new trips that they would otherwise not have been able to make.

Impact on behaviour, health and wellbeing

Accessing work: Many beneficiaries used the e-cycles for commuting. Beneficiaries reported that having the e-cycles allowed them to take on work they would not otherwise have been able to do, or helped them to be at work on time, which had previously been challenging.

Accessing green space and new areas: Beneficiaries were able to explore their local area, visiting places further away than they would otherwise have been able to reach via walking

or using a non-electric cycle, accessing places they could not get to by car, and using local cycle paths.

Trip chaining: Beneficiaries said the e-cycle made it easier to make a greater number of journeys, more frequently. Some started shopping locally instead of at big supermarkets, because the e-cycle enabled them to make smaller shopping trips as part of multi-purpose journeys such as commuting or the school run. Trip chaining is particularly carried out by women.

Improved physical health: Beneficiaries reported using the e-cycles for exercise and for travelling to places where they would exercise, for example a swimming pool. Through using the e-cycle to travel actively in addition to exercise, some beneficiaries reported improved fitness and losing weight they wanted to lose during their loan period.

Improved mental health and wellbeing: Most beneficiaries thought that the loan improved their mental health and wellbeing. It enabled socialising and reduced isolation for many, whilst also providing independence and a sense of freedom. Beneficiaries also reported improved confidence and resilience.

B: Organisation e-cargo cycle loans

In the three years of E-Move **58 organisations** received an e-cargo cycle loan. These were spread across four locations.

Most organisations were in **Swansea** and **Aberystwyth** with **27** and **25** respectively. There were **4** in **Barry** and **2** in **Newtown**.

B1. Organisation characteristics data⁵

The organisations that took part in the scheme can be classed as ‘micro’, ‘small’ or ‘medium’ based on the number of employees they have⁶.

Of the organisations that provided the relevant information (n=36) there were **29 ‘micro’ organisations**, **2 ‘small’ organisations** and **5 ‘medium’ organisations**.

The organisations were split across various industries and sectors:

- 7 in ‘food and beverage’
- 7 in ‘non-profit or charity’
- 4 in ‘education’
- 3 in ‘hospitality’
- 3 in ‘retail’
- 3 in ‘land management and gardening’
- 1 in ‘construction’
- 1 in ‘waste management and home repairs’
- 1 in ‘beauty and wellness’
- 1 in ‘healthcare and care services’
- 1 local authority
- 4 in ‘other’

B2. Organisation e-cargo cycle loan outcomes

If all e-cargo cycle trips made during the loan were replacing trips that would otherwise have been made by a car or van,

⁵ Data taken from surveys that organisations receiving an e-cargo cycle loan were required to complete before their and after their loan. Surveys accompanying e-cargo cycle loans were similar to the e-cycle surveys but also collected information on amount of time staff spent travelling for work, and costs incurred. Organisations were also asked about the suitability of e-cargo cycles for undertaking operational journeys within their sector and local area. Not all organisations completed the surveys. The number of organisations that completed the survey and make up the dataset is represented with ‘n’.

⁶ Micro-organisations 0-9 employees; small organisations 10-49 employees; medium organisations 50-249 employees.

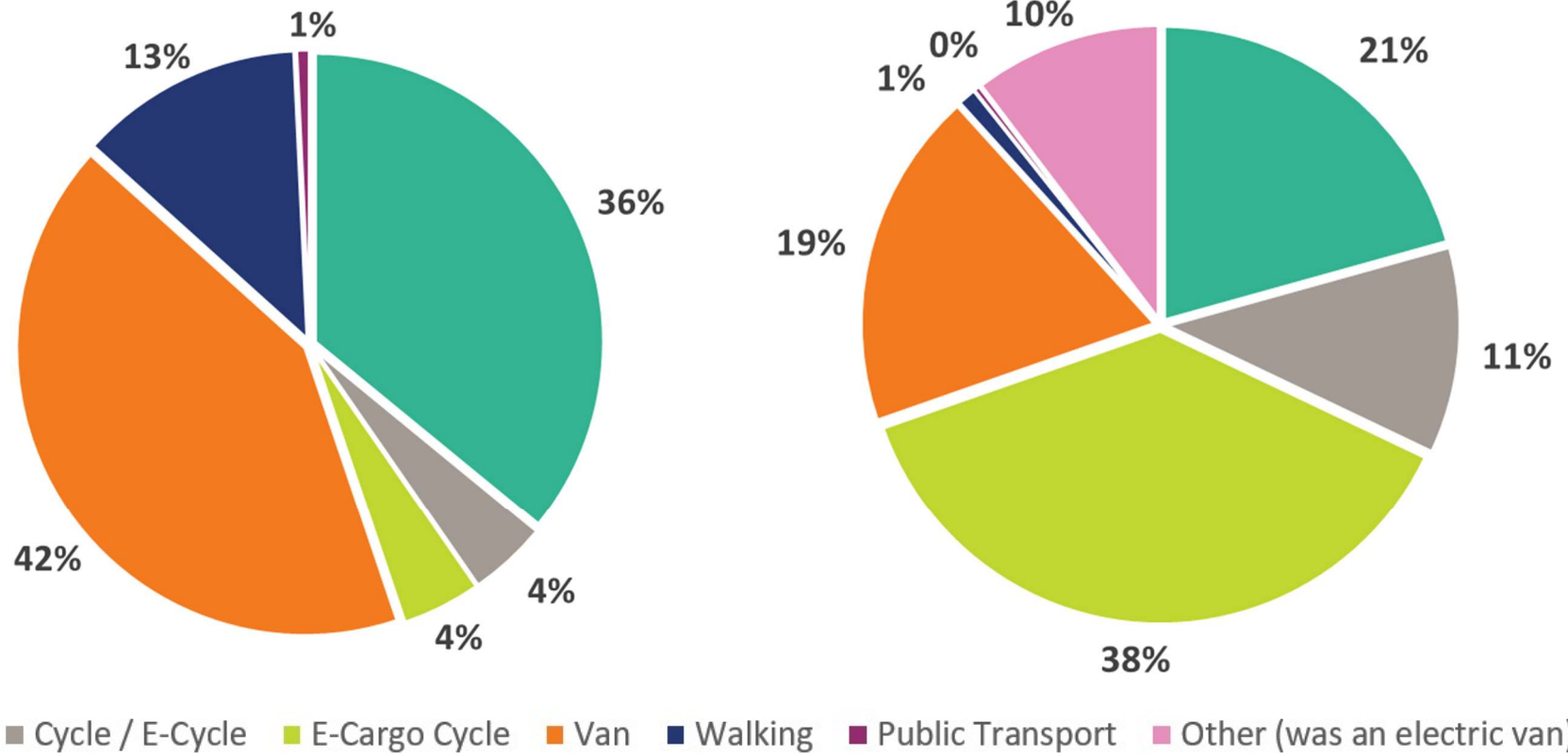
then it was estimated that the whole scheme would have saved **615 kg** of **carbon dioxide emissions**. This would be equivalent to the amount of carbon dioxide generated by a **medium-sized car⁷ driving for 2,563 miles (4,100 kilometres)**. This was based off GPS trip data for 30 organisations and pre-loan and post-loan survey data from 11 organisations.

In a typical week, on average organisations with the relevant information (n=11) reported making **52% fewer trips as van drivers** and **38% fewer trips as car drivers** when they had their e-cargo cycle. There were **50% more trips made via an active travel mode**. Figure 6 displays the mode share of e-cargo cycle recipients before and during their loan.

After the loan **14** organisations (n=16) thought that the use of an e-cargo cycle had a **positive financial impact** on their operating costs. There was **1** organisation that thought it had a **'minor' negative impact** and **1** organisation that answered, **'not sure'**.

⁷ Assuming an efficiency of 150 grams of carbon dioxide per kilometre

Figure 6 – mode share of weekly trips made by organisations before their e-cargo cycle loan (left) and during their e-cargo cycle loan (right) (n=11)



B3. Organisations' experience

Semi-structured interviews were conducted with organisations towards the end of loans, or after the loan period had finished. These sessions explored organisations' experiences of the loans in more depth.

Overall, it appears that loans were successful in altering organisations' perceptions around what was possible when it came to incorporating an e-cargo cycle into their operations. This illustrates why an e-cargo cycle loan is important in giving organisations a risk-free opportunity to understand how the new technology can fit into their operating model.

Organisations had many positive things to say about their experiences with e-cargo cycles. One of the main factors was 'public perception' with organisations saying things like:

- They were good for the profile of the organisation and helped the image of the business
- Got publicity from people outside asking about the bike and the novelty of seeing it
- Opened conversations
- Brought a smile to members of the public and customers.

There were many other benefits to using an e-cargo cycle identified by organisations as well. These included:

- Reduced travel costs and saving money on fuel
- Quicker journey times (over shorter journey distances)
- General access, with the ability to cut through traffic, park more easily and load straight to the door where a van could not
- Improved staff wellbeing with work being fun, better work life balance, physical exercise and improved mental health
- Improved inclusivity as it meant employees without a driving licence could make journeys where they otherwise would not be able to in a car or van.

Learnings from scheme implementation

Feedback from community beneficiaries, organisations and scheme officers

E-cycle adoption: barriers and potential solutions

Beneficiaries of the community loan scheme raised several barriers that would make it difficult for them to continue using an e-cycle of their own:

- Cost of purchasing an e-cycle
- Knowledge of appropriate e-cycle models. There are a variety of models suitable for different tasks (fold-up ones for limited storage space, large bulky ones for carrying children or heavy loads), but it is difficult to know which one is right for an individual without trialling them all
- Limited battery life and anxiety about running out of power
- Difficulty storing the bike at home if there is not enough space
- Concerns around securely storing the bike and preventing it from being stolen
- Lack of bike repair and maintenance knowledge or service providers in the area
- Traffic and dangerous drivers.

Semi-structured interviews were also conducted with E-Move project delivery officers. Scheme officers identified further barriers to e-cycle uptake post-loan, in addition to agreeing with those reported by beneficiaries. Further barriers included:

- Cycling not being seen as the ‘done thing’ culturally for organisations or individuals

“I had one guy saying ... he wouldn’t use it at all because he was worried about what he’d look like and worried about people laughing at him, taking the mick... I think there’s definitely that culture that a lot of people don’t want to be seen riding a bike. They feel a bit – I don’t know – stupid or they don’t want to wear a helmet, they don’t want to wear a high vis.”

- A lack of knowledge of the e-cycle and e-cargo cycle market and the options available to consumers. People are not aware of the variety of choices available to meet their needs.
- Beneficiaries’ anxieties about the e-cycles getting stolen, especially knowing how much they were worth. Officers felt for some it would be too much stress and responsibility owning an e-cycle

“I think people are more anxious than they should be around bike theft. But if it’s a perceived barrier it’s still a barrier... people want somewhere secure and safe to store a bike, because if it’s like a 1 in a 100 chance, it’s still a 1 in a 100 chance you’ve lost a £3K or £2K asset.”

Beneficiaries came up with several potential solutions in which the limitations due to cost could be mitigated:

- The opportunity to rent the e-cycles from somewhere
- Loans or grants to support e-cycle purchases
- Second hand or reconditioned e-cycles being available to buy
- Long term cycle loans
- Buying an e-cycle conversion kit as a cheaper alternative.

Other changes that would encourage the participants to buy an e-cycle included:

- Secure storage both at home and in public spaces

- Lighter e-cycles
- Safer or better cycle infrastructure in their area
- Support with cycle maintenance skills
- Improved access to cycle repair.

On a similar theme, beneficiaries also reported the following as incentives that encouraged them to use the e-cycles more. These could be taken into consideration when thinking about how to boost publicity of e-cycles and increase uptake throughout Wales:

- Good active travel infrastructure
- Social support (eg riding the e-cycle with friends)
- Encouragement by children (many beneficiaries reported that ‘playing with their children’ or ‘teaching their kids how to cycle’ were factors in them using the e-cycle more)
- Valuing the sustainability benefits over using a car
- Cost savings (operating an e-cycle is cheaper than operating a car)
- Getting a suitable e-cycle model for their needs.

E-cargo cycles adoption: barriers and potential solutions

Organisations identified several barriers that would make it difficult to incorporate e-cargo cycles into their operations. These included:

- Storage capacity for carrying larger and heavier things
- Price of e-cargo cycles
- Secure storage and keeping the e-cargo cycle safe at night (often project delivery officers needed to find a suitable location for an organisation where they could store their e-cargo cycle)
- Insurance and liability regarding the storage and charging of e-cargo cycles (concern over ‘battery fires’ in the news)
- Distance and time to far away sites
- Staff buy-in
- Safety, with one organisation saying:

“Dangerous roads mean I could not travel further afield.”

Organisations did also propose some solutions to these issues that would make them more likely to buy e-cargo cycles in the future:

- Financial support (grants, funding, bursaries)

“Scheme is fantastic. A great introduction in to using an e-cargo bike, but once you have had that experience you could feel dependent on that scheme unless you had a sound business plan to purchase your own e-cargo bike.”

- Improved cycle infrastructure
- Improved cycle parking

“Traffic, although not a particular difficulty or negative for myself as an experienced rider, it became clear the lack of infrastructure locally, safe routes, parking and lock up.”

Scheme officers also identified further barriers to e-cargo cycle uptake, including:

- Organisations having very specific gadgets or customisations for their cars and vans necessary for the job requirement. Out-of-the-box e-cargo cycles may struggle to meet those demands

“It’s the same when they buy a company van. They’ll often have the inside of the van fitted with storage or gadgets or features that enable them to carry out whatever their business needs are. It’s exactly the same with having a cargo bike for an organisation that might need to carry things. That type of bike needs to be adapted to work for that organisation.”

- A lack of visibility of e-cargo cycles as a viable option. People simply don’t think of them

- Organisations not wanting to shoulder the responsibility or liability of operating an e-cargo cycle

“I have had organisations voice concern when I’ve said we’ll transfer the asset to you and then you can do a similar scheme [...] they’re now showing anxieties around liability, etc.”

Reaching underrepresented groups: barriers and potential solutions identified from gender budgeting approach

As part of the scheme’s gender budgeting approach, E-Move was committed to making sure that people who are typically underrepresented in cycling got the opportunity to trial using an e-cycle. This involved:

- forging links with community stakeholders and specialist local organisations (such as those focussing on specific genders, ethnicities, health conditions or other life circumstances), to help reach diverse audiences and promote the scheme
- running e-cycle demonstrations, led rides and buddy rides with some beneficiaries to increase confidence
- purchasing different e-cycles and cycle accessories (such as child seats and folding e-cycles) to ensure that beneficiaries with different needs could make their everyday journeys.

In implementing the gender budgeting approach, scheme officers identified barriers preventing different groups of people from engaging with a scheme like E-Move or using an e-cycle in general. Officers shared ways in which they helped overcome these barriers during the project lifecycle as part of the gender budgeting approach.

Cycle weight

It was noted the weight of an e-cycle was an important consideration for women, but less so for men. It was important

to match the right beneficiary with an e-cycle that was fit for their purpose and easy to manoeuvre.

“Maybe with the women, the bikes are pretty heavy, all the bikes are pretty heavy. That was a common... I don’t remember any guys saying that. It was feedback from the women.”

This also held true for people with long-term health conditions or mobility issues where moving the bike in and out of storage proved problematic. In response to this, the team ensured that smaller, lighter cycles were purchased and promoted through the scheme to encourage women’s participation.

Cycle storage

Similarly, it was important to match the right model e-cycle with a beneficiaries’ home so that they felt confident they could safely store it. E-Move wanted to reach people who might not be able to afford an e-cycle, but those same people did not have homes with enough space to store an e-cycle and this presented a large barrier to participation. In response, officers made folding e-cycles available, though many individuals who would have liked to benefit from the scheme were still not able to take part. Officers recommended making community hubs available as storage spaces where people could keep an e-cycle.

“I had one of my beneficiaries who had the fold-up e-cycle. He used it to commute to work and he lived with his grandparents, so they didn’t have much space and he said that he would fold it up and keep it under his desk in his room... He would have had to rely on his grandparents to drive him to work because he didn’t have a car. He couldn’t afford a car either, so he wasn’t in that sort of position, but the e-cycle was a real game-changer for him.”

"And then obviously the target area is the town and those are the people that struggle with storage [...] if you look at our demographic, which was people on lower incomes, they're more likely to live in flats, shared houses, housing associations. So they're more likely to be hit by that factor."

Another example of where the model of e-cycle was important was for beneficiaries who were responsible for doing the school run. Initially not many e-cycles were fitted with the child-seat attachment in the back. However, when it became clear this was going to prevent beneficiaries, often women, from taking part in the loan because they would not be able to transport their children this was soon rectified.

"Other barriers are like the encumbered travel, so having to do the school drop off with the kids. So, there's a loan that's actually due back in tomorrow, a lady who has had a long tail cargo bike with a passenger carrying seat on the back and they've been using it to take their kid to school. They've actually been using it instead of a car, so their car broke, not replaced it and they've been using this cargo bike instead and they're absolutely loving it."

There were other examples of barriers that seem to exclusively affect women getting into cycling, but the e-cycle itself was part of the solution to overcoming that barrier. Such an example is personal safety when cycling on your own.

"Yeah, interestingly safety comes up a lot... I've had quite a few conversations with women who've said 'the e-bikes are amazing because I feel safe on them, I feel like if I needed to, I could get away quickly. I feel much more confident than on a conventional bike.' So that's the positive... there's obviously the negatives around the reasons why maybe they're not cycling more anyway is because of that perception of personal safety when they're out and about, which is why the led rides with the

Women’s Centre have been such a success I think because there’s a group of women, like-minded women all getting together for social rides, that sort of mutual support.”

Perceptions of cycling and e-cycles

The lack of visibility of certain groups of people in cycling – such as women, those with health conditions, or those from certain ethnic groups – can also make it feel like it ‘is not for them’. Had the e-cycles from E-Move been offered to the public in the same way as an ‘on-street cycle hire scheme’, the officers were doubtful they would have reached as many people. Instead, they think going to meet people ‘over halfway’ by working with organisations representing or supporting specific audiences was an effective way of making people aware of the opportunities available to them and giving them an opportunity to ask questions was a better way forward.

“Part of that success is down to people on the ground, project officers on the ground being able to liaise directly with organisations who are working with those more marginalised groups. I don’t think we’d have had the same level of participation or buy in from those marginalised groups if we’d have just had a load of bikes in the community.”

“We’ve worked with lots of organisations... For instance, the Salvation Army, they run an employment plus programme where they’re looking at getting people back into the workplace, working with the Job Centre, working with the council homeless prevention team.”

Cost

The main barrier for many individuals is still the cost of an e-cycle. There are schemes that can make purchasing a bicycle or e-cycle more affordable, such as the Cycle to Work scheme

or the Green Commute Initiative, however they are only open to people in permanent employment on a certain income, which excludes groups of people who could benefit most.

“If I had a magic wand, I would really like to see there be maybe like a Wales specific package [...] similar to Cycle to Work. But one of the things that I have come across, particularly when we’re targeting poor socioeconomic backgrounds, is often they may not have a full-time job or be in a situation where they’re able to qualify for Cycle to Work [...] they’re the ones who need that financial support the most. I’d like to see maybe a package for that because this whole E-Move project has been based on trying to drive e-bikes for those who particularly live in transport poverty, poorer socioeconomic [...] but they’re the ones who often don’t have access to the funding that everyone else can.”

"I think a non-means-tested zero-interest percent loan is the biggest thing you could do, because the biggest barrier we’ve identified [...] is affordability"

The project officers proposed the following as potential future broader solutions to barriers:

- Providing organisations and individuals with as much information as possible about the models of e-cycles to suit their needs. This could be achieved through letting them trial different models (like E-Move has), or putting on public demonstrations or conventions
- Greater provision of cycle repair and maintenance services, especially in rural areas
- Workplaces could be better equipped to make it more enticing for workers to operate e-cargo cycles as part of their job (eg changing rooms, drying rooms, lockers, training)
- Dedicated cycle storage facilities and hubs in population centres

- Wales-specific e-cycle subsidy or financing scheme like the Cycle to Work scheme except made available to a broader group of people beyond just those working full time above a certain income
- Subsidised e-cycle libraries in urban hubs where trained individuals are responsible for the management of the library, and individuals can hire e-cycles for extended periods of time for an affordable price.

Recommendations for future practice, policy and investment

Based on the findings from the evaluation of E-Move and experiences of the gender budgeting approach, Sustrans makes the following suggestions towards future practice, policy and investment when it comes to increasing uptake of e-cycles and e-cargo cycles across Wales:

- Welsh Government investigating the feasibility of a **subsidy or financing model that reduces the financial barrier to purchasing an e-cycle for individuals**. This model should not exclude those who are not in permanent employment, as they are a cross-section of society who could benefit most from owning an e-cycle
- Welsh Government **continuing to invest in and support the operation of e-cycle hub and loan schemes like E-Move**. This would ensure that people around Wales who would otherwise not have the opportunity to trial e-cycles can do so and make up their mind whether they want to invest in them
- Welsh Government explore a range of models to widen the availability of e-cycle hire. **Hire programmes should offer a wide range of e-cycle models and accessories**, focussing particularly on:
 - folding e-cycles to support those without sufficient storage space (for example those on low incomes)
 - lighter e-cycles to support women and those with health conditions
 - e-cargo cycles with different storage options to support families and businesses
- Continued investment from Welsh Government and local authorities in **high quality active travel infrastructure**.

This includes both **walking, wheeling and cycling routes and cycle parking and storage facilities**.

Availability of suitable storage is currently a large barrier to e-cycle usage by people on low incomes

- Welsh Government supporting **clarification of the procedure by which small and medium enterprises can legally and safely store and insure e-cycle and e-cargo cycles on their property and premises**.
Currently this is a grey area for some organisations due to concerns from insurers over the safety of the batteries and who is liable if they ignite
- Welsh Government **investing in cycle maintenance training and courses** for would-be e-cycle technicians to ensure there is a sufficient workforce to cater for a growth in the e-cycle and e-cargo cycle market
- Welsh Government **investing in child and adult cycling training and basic maintenance** so that people all over Wales feel confident enough to try riding an e-cycle. It is **important that this investment reaches existing community and specialist organisations that can help people access the cycle training** that otherwise might not. For example, it should not be exclusively offered to workplaces for people in permanent employment
- Welsh Government continuing to **support not-for-profit organisations that provide training, support and access to cycles that meet a broad range of access requirements**, reaching people that might otherwise be underrepresented and marginalised in cycling
- Continued investment in the **research and evaluation of e-cycle usage and perceptions across different demographic groups**, which was started in Year 3 of the scheme and is reported on in the scheme's Year 3 report.

Already, Welsh Government has recognised the importance of the E-Move scheme in improving understanding of the impact e-cycles and e-cargo cycles can have in Wales.

In their [Active travel delivery plan 2024 to 2027](#) (published by Welsh Government 14th March 2024) they demonstrate a commitment to 'improving accessibility and removing barriers'

as well as ‘supporting access to cycles’. This includes supporting ‘the transition of the fleets [of e-cycles and e-cargo cycles] to a long-term sustainable operating model in 2024’.

They also mention ‘e-cycle purchase loans’ and ‘access to lower cost cycles’ where they will explore options to reduce the financial barriers to e-cycle or e-cargo cycle ownership.

Further reading

Over the three-year E-Move scheme, Sustrans has published material communicating the impact of E-Move. These are mostly case studies of individuals and organisations who have benefitted from a loan.

What is E-Move?

- [Piloting e-bike and e-cargo bike loans in Wales](#) (October 2021)
- [E-Move project extended thanks to Welsh Government](#) (April 2023)

Evaluating the impact of E-Move through research and case studies

- [Rhyl community bakery benefits from e-cycle loan](#) (June 2022)
- [E-bikes changed our family's travel](#) (August 2022)
- [Community agriculture project benefitted from an e-cycle](#) (October 2022)
- [Using an e-bike gave me the fitness and confidence boost I needed](#) (October 2022)
- [Switching to sustainable travel in rural Wales](#) (October 2022)
- [E-bike helped an Aberystwyth resident start a business, exercise and volunteer](#) (December 2022)
- [Head teacher in North Wales replaces car with e-cycle](#) (March 2023)
- [Analysing the success of the E-Move community e-cycle project](#) (April 2023)
- [Cost savings, confidence and wellbeing with e-bikes](#) (October 2023)
- [Combatting health inequalities in my community with active travel](#) (December 2023)
- [Borrowing an e-bike changed my relationship with cycling](#) (January 2024)

- [The bike-based business in Aberystwyth with big ambitions](#) (January 2024)
- [Starting small to make big changes](#) (May 2024)

The legacy of E-Move and looking towards the future

- [E-Move e-bike borrowing project comes to Abergavenny](#) (May 2024)

Methodology note

Sustrans' Research and Monitoring Unit used several monitoring tools to evaluate the E-Move scheme. We have described these in the main body of the report but summarise them again here:

- Community e-cycle pre- and post-loan survey
- Semi-structured 1-to-1 interviews with community beneficiaries
- Organisation e-cargo cycle pre- and post-loan surveys
- Semi-structured 1-to-1 interviews with organisations
- GPS trackers on e-cycle and e-cargo cycles
- Semi-structured 1-to-1 interviews with E-Move project delivery officers

Data capture and limitations

It is worth noting that data capture was not 100% for any of the monitoring tools. For example, not every loan beneficiary returned a post-loan survey. Where a beneficiary did not complete both a pre- and post-loan survey it was not possible to make a before and after comparison, so unpaired surveys are not included in any statistics obtained from comparing pre- and post-loan survey data.

Where possible we have included a value for 'n' (the number of survey respondents) for the survey data analysis. This is to make it clear that the data was obtained from a subset of people that benefitted from an e-cycle or e-cargo cycle loan, rather than the full cohort.

More detailed methodology

Further details of the methodology can be found in each of the three end-of-year reports. These methodologies can be made available upon request.